The PELMAN SYSTEM *of* MIND *and* MEMORY TRAINING :: ::

LESSON

NO. 4

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THE PELMAN SYSTEM OF MIND & MEMORY TRAINING

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LESSON IV.

LONDON
THE PELMAN INSTITUTE
FOR THE SCIENTIFIC DEVELOPMENT
OF MIND AND MEMORY
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Supplement

The E.M. Health Exercises

LESSON IV.

I. THE STREAM OF THOUGHT.

1. Have you ever asked yourself this question : "Do my continually changing thoughts and feelings follow each other at random ?" If not, do so. Presuming you are free to think the matter out quietly, take a sheet of paper and jot down as many as you can remember of the thoughts of the past hour. It is now, say, 9 p.m. At 8 p.m. you were sending your insurance money to the Secretary of the Company, and, having posted the letter, you returned to the reading of the book which was put aside for a moment or two in order to remit your premium before the days of grace were exhausted. You read for half-an-hour ; then a friend called and you discussed politics for ten minutes. After his departure you were reminded that the greenhouse needed a new pane of glass, and you carried out this bit of repair work rapidly, with becoming pride in your ability to do so, finishing at 9 o'clock.

Sequence in Events.

2. On analysing the events of this hour a little closely, you realise that there is a definite sequence in their happening : in other words, thoughts do not come at random—they proceed by the laws of association. While you were reading your book, you came across the word *insurance* ; and that reminded you of the pressing importance of despatching your premium before it was too late. Having done this, your

interest in the book caused you to return to it, and for half-an-hour you were following the hero and heroine through trials and tribulations to marriage. Then there was a break. A friend's call and his ardent politics changed your world of fiction for a world of fact ; and you went at it hammer and tongs for ten minutes. He left—let us hope a thoroughly beaten man—and on shaking hands with him at the garden gate you noticed the greenhouse with its broken pane.

You repaired it.

Such is the history of your mental hour. All its thinkings form a link of associations with one inevitable break—that of the friend's visit. Of course you could have avoided this if you had been so disposed. You could, for instance, have seen the word "insurance," and even thought of your insurance policy without acting upon the thought ; and you could have refused to see your friend on the plea that you were busy, risking the charge of being thought unsociable, or of giving direct offence. By avoiding the chances of interruption, you would have secured greater concentration and obtained a more complete command over the thoughts connected with the book.

II. THE MIND WANDERER.

3. But even a mind that wanders thinks according to the laws of association. Let us see how this happens. Thomas Jefferson, a young man of 23, is trying to devise some way of spending his evening. His thoughts for about ten minutes are represented in the following words :—Theatres ; Charley ; Miss Turner ; fashions ; Weldon's ; Simons ; South America ; Patagonians ; advertising evils ; Balham.

He began by wondering what was the best seat he could afford at the Lyceum ; and then he wondered if his friend, Charley, could go with him ; from Charley he immediately passed to Charley's fiancée, Miss Turner ; and from her to fashions, frills and furbelows ; then he thought of Weldon's ; and, as that was the name of his firm, he must needs think of the office staff, especially of Simons who had robbed the safe, and skipped away to South America. That reminded him of the Patagonians who were said to be 6 or 7 feet high, and he wondered whether a man's height could be raised, as the advertisements said. Here he paused to meditate on the frauds of advertising ; and on the way beautiful places were made hideous. He was just thinking he would change his lodgings to a more beautiful suburb than Balham, when Charley called unexpectedly.

III. CONNECTED THINKING.

4. The worst mind wanderer in the world has thoughts which are intimately connected in this way, even though in a five minutes' reverie he may commence with a thought about margarine and finish up with a speculative thought about the planet Mars. The mischief, however, is often serious. A man who uses his thinking powers in this lackadaisical fashion becomes unable to fix his attention on anything for long together ; his memory develops deplorable weaknesses due to inattention ; and, as a consequence, self-confidence decreases in corresponding ratio. No doubt there are times when we should allow the mind to take its own course—or accept the drift in which we find ourselves—as in the conversation of a social evening. But when business or study is before us, and we have a programme

to fill, hour by hour, the more consistently we follow the demands of attention, the better it is for our mental powers generally. In this lesson we shall deal with the laws of contiguity, similarity and repetition—called the laws of association—under the name of the

Four Laws of Mental Connection.

IV. CONNECTED AND UNCONNECTED IDEAS.

5. Let us take the following 15 words representing 15 distinct ideas :—

Town
Camera
Cat
Island
Window
Fur
Photographer
Warm
Lens
Continent
Glass
Man
Africa
House
Animal

Read these words through carefully, once only, and see how many you can write down in the order given. In all probability, your efforts

will not be a conspicuous success. Let us, however, re-arrange the same 15 words as follows :—

Town
House
Window
Glass
Lens
Camera
Photographer
Man
Animal
Cat
Fur
Warm
Africa
Continent
Island

Read them through again carefully, once only, and then try to write them down from memory. This time your success will possibly astonish you. Yet the result is due simply and entirely to the working of the Laws of Association. Each idea in the re-arranged series of 15 words has an obvious association with the idea immediately preceding it, and with the idea immediately following it. The first list shows the difficulty of remembering unconnected ideas : the second list exhibits the ease of recollection when a natural association exists.

V. THE NATURAL CHAIN OF THOUGHT.

6. It would seem to be a psychological law admitting of few—if any—exceptions, that no idea ever occurs to the mind without the stimulus of an external sensation or an internal association. Occasionally the mind may appear to leap suddenly from one idea to another quite unconnected with it, but in almost every instance a little investigation will reveal the fact that the second idea has arisen either in response to the stimulus of some sight, sound, flavour, odour, or sensation of touch, or that it is connected with the previous idea by some mutual link or series of links which may perhaps have been so weak as scarcely to rise from subconsciousness to consciousness, yet just sufficient in character to form a means of transition. No doubt, at some time when taking a walk, you may have found your chain of thought suddenly interrupted by an idea apparently quite foreign to the line of contemplation you have been pursuing. This is usually due to the fact that the interrupting idea is associated in your mind in some manner either with the scene through which you are walking, or with some similar scene. Often, these associations of locality are so insignificant or so remote as to evade all attempts to trace them.

VI. THE ANALYSIS OF CLASSIFICATION.

7. Whenever there is a connection between two ideas, or between the words representing two ideas, the connection can always be classified under one of four laws. These are:

(1) The law of INHERENT CONNECTION.

(2) The law of OPPOSITION.

(3) The law of EXTERNAL CONNECTION.

(4) The law of SIMILARITY OF SOUND.

(1) The first law is so named because the connection is inherent, or exists actually within the two ideas themselves, quite apart from any personal experience. The sub-divisions of Inherent Connection are:—

(a) IDENTITY.—In this case the two words represent the same idea and have exactly the same meaning, *i.e.*, one word can be used in place of the other without in the least altering the sense. For example, *donation* and *gift* are identical. So are *poor* and *indigent*; *frequently*, *often*; *work*, *labour*; *empty*, *vacant*; *tired*, *weary*; *question*, *query*; *obtain*, *procure*.

(b) GENUS AND SPECIES.—The word "Genus" means a sort or kind of thing, but it is always a sort or kind which includes several minor sorts or kinds within itself, the latter minor sorts or kinds being known as "species." For example: *animal* would be a Genus and *dog*, *cat*, *elephant* would each be a Species. *Flower* and *daisy* is another example, *flower* being the Genus, and *daisy* being the Species. *Dog* and *terrier* are Genus and Species; so are *port*, *Liverpool*; *city*, *Glasgow*; *tree*, *oak*; *fish*, *cod*; *author*, *Shakespeare*; *school*, *boarding-school*; *punishment*, *cane*; *move*, *run*; *speak*, *shout*; *colour*, *green*.

(c) COLLATERAL SPECIES.—This classification is applicable where the

two ideas are of the same sort or kind and can both be included under a wider or more general kind known as the Genus, the two ideas existing collaterally, or side by side, within the same general class. Compare the following examples of Collateral Species with the examples already given of Genus and Species. *Oak* and *elm* are Collateral Species, for they are both of them trees. *Red* and *blue* are Collateral Species, for they are both of them colours. Other examples are *London*, *Paris* (both capitals); *dog*, *cat* (both domestic animals); *walk*, *run* (both being sorts of movement); *Sunday*, *Monday* (both days of the week); *terrier*, *poodle* (both dogs); *Liverpool*, *Southampton* (both ports); *cod*, *herring*; *Shakespeare*, *Milton*; *man*, *woman*; *colonel*, *captain*; *river*, *sea*; *coat*, *hat*; *boot*, *stocking*.

(d) WHOLE AND PART.—This subdivision is very easy to understand, for it includes all those cases where one of the ideas is a part of the other. *Horse* and *head* would be instance of Whole and Part, *horse* being the Whole and *head* the Part. Other examples are: *man*, *arm*; *lion*, *mane*; *forest*, *tree*; *year*, *month*; *book*, *leaves*; *bread*, *flour*; *England*, *London*; *atmosphere*, *oxygen*.

(e) OBJECT AND ATTRIBUTE.—Here one of the two words will be found to denote a person or thing, while the other word expresses some characteristic quality or attribute or action of that thing. For example:

snow and *white* would be a case of Object and Attribute, *snow* being the Object, and *white* being its Attribute. Again : *fish* and *swim* would be a case of Object and Attribute, *fish* being the Object, and *swim* being the attributed action. Another example would be *heat*, *oppressive* ; in this instance *heat* would be the Object, and *oppressive* the attributed quality. *Laziness*, *foolish*, may be classified in the same way, *laziness* being the Object, and *foolish* being regarded as its Attribute. Further examples are : *ice*, *cold ; lead*, *heavy ; bird*, *sing ; man*, *walk ; desert*, *dry ; mother*, *good ; scales*, *weigh ; night*, *dark ; sky*, *blue ; table*, *wooden*. Notice here that although TABLE, WOOD, is an example of Object and Attribute, yet *table*, *wooden*, is also an example of Object and Attribute, for *wooden* is an adjective. *Table*, *wooden table*, would be an example of Genus and Species, *table* here being the Genus while *wooden table* would describe for us the particular kind or species of *table*.

(f) SEQUENCE.—The application of this classification is simple. It is used when one of two ideas follows as the effect or result of the other, the word "*sequence*" meaning "following." An instance is seen in the case of the words *lightning* and *thunder*, when *lightning* is the cause and *thunder* the effect. Again *labour* and *weariness*, in which instance *labour* is the cause and *weariness* is the effect. Another example would be *printing-press*, *book*, the *printing-press* being

the cause and the *book* the effect. The following are additional examples of Sequence : *illness, fretful ; cane, punishment ; cane, pain ; army, battle ; artist, picture ; author, book ; cloud, rain ; enemy, war ; tailor, clothes ; cigar, smoke.*

(g) COMPLEMENT.—This is the last subdivision of the law of Inherent Connection, and it is the least frequently used. It occurs in cases where one idea demands as an absolute necessity the existence of a second and correlative idea in order to complete the thought suggested, as *parent, child ; teacher, pupil ; shepherd, flock ; lecturer, audience.*

(2) The second of the Four Laws of Mental Connection is the **LAW OF OPPOSITION.** In this case the connection is not one of mere difference. It is not sufficient that the two ideas are unlike one another :—in order to be classed under Opposition, they must be absolutely contrary to one another. For example, *wool* and *iron* must not be classified under opposition, as, though they are unlike one another, they are not the exact opposite of one another ; but *hard* and *soft* form an instance of Opposition, because they represent opposite extremes. *North* and *South* would be a case of Opposition, and so would *East* and *West*, but *North* and *West* would not be Opposition, nor would *South* and *West*. The following are examples of Opposition : *light, dark ; day, night ; strong, weak ; well, ill ; war, peace ; short, long ; friend, enemy ; thick, thin ; idle, industrious ; giant, dwarf.*

(3) The third of the Four Laws of Mental Connection is the **LAW OF EXTERNAL CONNECTION.** In this case the connection does not arise out of any similarity between the two ideas themselves, but is due to the fact that the two ideas happened to have been presented to the mind under circumstances likely to bind them together, so that the thought of one will recall the thought of the other. *Wellington* and *Waterloo* are examples of External Connection, for although there is no similarity between the two, yet one can scarcely think of *Wellington* without thinking also of the Battle of *Waterloo*. Again, *room* and *chair* would be an example of External Connection; the *chair* is not a part of the *room* for it can be removed entirely without in any way altering the room itself, yet the thought of the *chair* almost always brings into the mind the thought of *room*. Other examples are: *water, can; watch, pocket; city, traffic; balloon, accident; holiday, seaside.*

Connections by External Connection are often purely personal in their character, and depend upon the special knowledge or experience of the individual. To a man who kept a tame monkey in his garden the example "garden, monkey" might be a strong instance of External Connection, though to the majority of persons the connection would be unnoticeable.

(4) The fourth of the Four Laws of Mental Connection is the **LAW OF SIMILARITY OF SOUND.** This differs from the other three laws in that the connection is not really a connection between actual ideas, but between the words which represent those ideas. The law of Similarity of Sound occurs between two words whenever one word, or a part of one

word, sounds very much like the other word or like a part of the other word. For instance, *knight* and *night* are perfect in Similarity of Sound. *Bird* and *burden* is another good example of this law. Notice that in Similarity of Sound the similarity should occur either in the whole word, or else in the accented syllables—the syllables most strongly pronounced. The following are examples: *pick-axe, axiom; bright, bride; son, sun; brother, another; ocean, notion; tent, attentive; flock, flog; stock, stocking; feet, feed; great, grade; tie, tile; ape, April; fool, full.*

The above Laws of Mental Connection are of the greatest importance, and it is absolutely imperative that they should be mastered *thoroughly*. All the examples given should be studied closely. Very often one pair of words can be classified under several of the above laws or subdivisions. In such a case you should use that classification which seems strongest to you personally.

VII. THE APPLICATION OF ANALYSIS.

8. Let us now proceed to examine the application of these Four Laws of Mental Connection to the list of 15 words as re-arranged on pages 6 and 7. It was by means of a subconscious recognition of these Laws that you were enabled to remember the list so readily. The conscious and deliberate analysis of the connections would have made the task still more easy and the remembrance more nearly permanent. In

the following example you should reason out carefully for yourself each connection :

Whole and Part	Town	Whole and Part
	House	
Whole and Part	Window	Whole and Part
Attribute and Object	Glass	
	Lens	Whole and Part
External Connection	Camera	
	Photographer	Genus and Species
Genus and Species	Man	
	Animal	Genus and Species
Whole and Part	Cat	
	Fur	Object & Attribute [or Sequence]
Object and Attribute	Warm	
	Africa	Genus and Species
Collateral Species	Continent	
	Island.	

Now, without reading this series of words again, endeavour to write this list backwards, beginning with the word "Island" and working back to the word "Town." This also you will probably achieve without hesitation.

The Repetition of a "Series."

9. When repeating any similar "Series" of connected words, say the *words* of the Series alone, and do not say or trouble to think about —the classification. The classification enables you to learn the Series in the first instance, so that afterwards you can repeat the Series itself without recalling the classification. Never attempt to learn a "Series" of connected words merely by several repetitions of the words, but always by classifying in accordance with the connecting laws.

The Translation of "Series."

10. If you know a foreign language, you will find that you can translate the "Town" Series

into that language and repeat it forwards and backwards as easily as in your own native tongue. Such an exercise is of very great value to all who are studying foreign languages. A "Series" which contains examples of Similarity of Sound should not be translated unless an equally striking Similarity of Sound exists between the two words after translation. If you study the following series of 100 words carefully, taking about a dozen words at a time and analysing the connections, as you did in the "Town" Series, you will find that you can immediately repeat the whole Series from memory forwards and backwards. Like the words "Town" to "Island," the Series from "Island" to "Space" may be translated into any language. You should, however, place "thread" between "cotton" and "needle" before translating.

Continuation of the "Town" Series.

Island	Garden	Holiday	Organ	Girl	Gold
Water	Bird	Voyage	Music	Pinafore	Money
Drink	Eagle	Ship	Song	Apron	Wealth
Eat	Strong	Sail	Words	Dainty	Luxury
Breakfast	Steel	Canvas	Book	Delicate	Motor
Morning	Battleship	Cotton	Author	Fragile	Car
Night	Gun	Needle	Pen	Care	Wheels
Sleep	Shell	Sew	Ink	Careless	Round
Bed	Explosion	Garment	Black	Lazy	Earth
Soft	Wound	Coat	Coal	Punish	Sun
Hard	Surgeon	Sleeve	Mine	Whip	Sundial
Diamond	Physician	Arm	Quarry	Birch	Clock
Sapphire	Medicine	Hand	Stone	Sting	Time
Blue	Quinine	Finger	Monument	Bee	Space
Green	Bitter	Ring	Great	Queen	Lace
Leaf	Sweet	Marriage	Small	King	Boot
Plant	Pleasant	Church	Child	Crown	

Mind-Wandering.

11. The regular, daily repetition, forwards and backwards, from memory, of a Series such as the above, is, if persevered in, an invaluable aid

towards the cure of mind-wandering, *so long as the repetition demands the exercise of thought* and has not become merely mechanical. Under no circumstances whatever should a Series be repeated when the repetition of the whole, or any part of it, has become automatic and has ceased to require conscious thought.

It is obvious that there is practically no limit to the number of words that might be committed to memory in this way, because the mind is never troubled with more than two ideas at a time. If the student cares to construct a Series of his own, he will find that, if the ideas come within the laws of connection when taken two at a time, and if he compares each pair carefully before proceeding to the next pair, he can remember a Series of a thousand words as easily as he remembers a Series of twenty words.

Failure to Inhibit.

12. When constructing a Series you should take care that each word you add has a more intimate connection with the word immediately preceding it than with any word a few steps earlier in the Series. Thus, in the "Island" Series, it would be unwise to write "Island, water, drink, liquid," for although there is a connection between "liquid" and "drink" there is a still closer and more obvious connection between "liquid" and "water." If you were to write "water, drink, liquid," it would suggest that when you wrote the word "liquid" you had failed to inhibit, or to drive out from your mind the idea of "water": in other words, when you wrote "liquid," your attention was still centred more strongly on "water" than on "drink."

There are various uses to which this principle of the series can be adapted, and these will be explained as the Lessons proceed.

VIII. USEFUL APPLICATIONS OF ASSOCIATION.

13. Suppose that you have to learn the thirty-six exceptions to the rule that in Latin all nouns of the third declension ending in *is* are feminine. Many a schoolboy has laboured hard and long over these thirty-six words, only to forget them again, and never to be sure that he knew all of them.

Let us arrange these thirty-six exceptions in pairs so that we shall have to pay attention to two only of them at a time. The connection may not be so obvious as in the first series, but a little thought will discover it. Here is the list :—

Mullet	— Mugilis	Stem	—Caulis(2)
Fish	— Piscis	Bundle	—Fascis
River	— Amnis	Club	—Fustis
Canal	— Canalis	Lever	—Vectis
Ditch	— Scrobis	Axle-tree	—Axis
Worm	— Vermis	Ploughshare	—Vomis
Dust	— Pulvis	Sword	—Ensis
Path	— Callis	Nail	—Unguis
Hillock	— Collis	Blood	—Sanguis
Stone	— Lapis	Snake	—Anguis
Fire	— Ignis	Dormouse	— Glis
Firebrand	— Torris	Net	—Cassis
Bellows	— Follis	Hair	—Crinis
Ashes	— Cinis	Rope	—Funis
Fine Flour	— Pollis	Collar	—Torquis
Bread	— Panis	Circle	—Orbis
Cucumber	— Cucumis	Month	— Mensis
		End	—Finis
Cabbage	—Caulis(1)	Doorpost	—Postis

14. Now, a peculiarity about a list of words learnt in this manner is that it is not necessary to repeat the whole list to discover if any particular word is in it or not, because, if the word

is in the series, it will immediately recall the word with which it was associated. If it is not, it will recall nothing. You do not need to repeat the "Town" series of words to tell us that "cat" was in it, and that "annex" was not; nor the second series to tell us whether or not *ensis*, *piscis*, *finis* or *cassis* are exceptions. Whether you learn the series in English or Latin makes no difference, provided you know the exact meaning of the Latin words.

Clues to over three thousand French Words.

More than 3,000 words with the following twenty-two endings are spelled the same in French as in English.

able.	Abomin*able*.
ace.	Disgr*âce*.
cle.	Obsta*cle*.
ade.	Barric*ade*.
al.	Illég*al*.
ance.	Résist*ance*.
ant.	Const*ant*.
ence.	Pati*ence*.
ent.	Impati*ent*.
ge.	Ra*ge*.
ible.	Répréhens*ible*.
ice.	Avar*ice*.
ite.	Israél*ite*.
ct.	Stri*ct*.
ine.	Discipl*ine*.
ion.	Lég*ion*.
tude.	Multi*tude*
gue.	Démagog*ue*.
ule.	Ridic*ule*.
ure.	Caricat*ure*.
ile.	Host*ile*.
et.	Pamphl*et*.

La brochure is French for an ordinary pamphlet : *le pamphlet* for a hostile pamphlet only.

It will be observed that these 22 specimen words, forming the "Abominable" Series, selected from the larger list of 3,000 odd, are joined together by the Laws of Mental Connection.

15. How this principle of comparing and classifying ideas may be applied easily and interestingly to the infinitely various problems of memory will be shown as the lessons proceed. Some applications will be immediately obvious, such as in speaking without notes. What are notes for ? To remind you of that which comes next. The minister, the lawyer, or the lecturer, does not jump from the idea with which he starts to something totally foreign to his subject. His line of thought and argument, with appropriate illustration, is planned out beforehand and divided into headings. If these divisions follow one another logically, he has only to write them down and COMPARE THEM TWO AT A TIME, classifying the connection, to remember each of them in its exact order, regardless of their number. If you are a public speaker, try it. If you do not know what comes next in your discourse, the arrangement of your topics must be shockingly inept.

IX. THE RECOLLECTION OF ISOLATED FACTS.

16. The subconscious action of Association may sometimes be employed effectually in the effort to recall an isolated fact, the remembrance of which cannot be awakened easily by any other means. The method is to return to the surroundings in which you last were aware of the fact you wish to remember. For example, if you have mislaid a bunch of keys, you may

remember where you placed them if you go back to the place where you know you last laid them. If you have "forgotten" the funny story told you by a friend, it may recur to you if you betake yourself to the spot where the story was recounted to you. The reproduction of some of the component elements in a situation tends to revive in the mind the impressions made by other component elements which may not be actually reproduced without such stimulus. It is, of course, impossible to classify these purely arbitrary associations, depending as they do chiefly upon propinquity of time and place.

An Actress on Memory.

In this connection, it is interesting to record what Mrs. Kendall, the celebrated actress, has to say in reference to actors and actresses remembering their "parts." She says :—

> "The memory can be cultivated, like any other faculty, up to a certain pitch. Practice works wonders. If you have not played a part for years, the re-reading of it, three or four times only, will bring it back to you. We have so much to help our memory on the stage. We have what is called the "business" of the scene. The fact that you have to do certain things brings a certain line back to your memory. Often when you enter your house, and sit at the same place and at the same table, the memory of the past returns, 'C'est la même chose sur la scene.' A little bit of 'business' brings back a speech, the remembrance of a speech brings back a bit of 'business'; the one helps the other. Still, though an exceptional memory is not absolutely necessary, it is an enormous help.

"The most extraordinary instance of memory that I personally remember was that of old Mr. Buckstone, who used to come upon the stage at rehearsals, reading his part and not knowing a word ; but he would come on at night, and the clothes, and the situation, and the whole thing, brought the words back to him. I am speaking of the repetition of an old part. The fact of putting on the clothes, and dressing for the part, and speaking about it for a little, brought it back."

Intuition and Memory.

There is another aspect of this matter to which attention should be drawn, and we cannot state it in better words than these : that what is sometimes called *intuition* is no more than memory working at high pressure. We have seen a wholesale jeweller buy hundreds of pounds worth of expensive articles in a few minutes, merely glancing at some of the diamond rings and brooches before giving an order for them. What is the explanation of this speed in what is, to most of us, a very delicate and deliberate operation ? "The buyer was an expert with a trained eye" : that is the answer. But the expertness is due to the action of scores of previous experiences in this work of buying : hence it is primarily due to memories so often repeated that no more than a glance is necessary to estimate value and to decide an order. Take another illustration—Harry Vardon as a golfer. He has so often used the clubs painstakingly that his accuracy is the outcome of repeated memories. Thus he is what he is on that account : a professional golfer of the highest rank, because he has an excellent subconscious memory. And he obtained it by repetition.

X. SO-CALLED "SYSTEMS OF MNEMONICS."

17. In former days various systems of so-called "Mnemonics" were founded upon arbitrary associations of locality. In some of these, the pupil was directed to imagine a square sheet of paper, ruled into nine or sixteen squares, and then to imagine that he saw in each square a word or picture indicative of the fact to be remembered. It would be appalling to contemplate the chaotic state of a brain subjected to such a tax through several weeks of diligent study. A somewhat similar system instructed the pupil to locate and picture in imagination all the facts he wanted to remember as being present in some room familiar to him. There would be obvious impediments in the way of applying this method to the memorisation of a list of the Kings of England, or the mountains of Europe, or the Emperors of Rome, or to the memorisation of such a subject as the physical signs of valvular disease of the heart, the correct manner of dealing with which we illustrate fully in a later lesson of this Course.

Legitimate Use of Artificial Aids.

18. But although the systems just mentioned are hopelessly opposed to the laws of psychology, it must not be assumed that every artificial aid to memory is to be condemned as worthless. Thousands of students of physics have remembered the order of the colours in the spectrum by the artificial word "Vibgyor," in which V stands for violet, I for indigo, B for blue, G for green, Y for yellow, O for orange, and R for red. Again, the letters p, a, d, forming the word "pad" give the initials of the membranes of the brain from within outwards :—p = pia ; a = arachnoid ; d = dura.

Yet again, the cutaneous nerves crossing the region of the Iliac crest may be remembered by the word "slide," in which s = sacral nerves; l = lumbar nerves; i = ilio-gastric; d = dorsal; and e = external cutaneous.

XI. RHYME AS AN ADVENTITIOUS AID TO MEMORY.

19. Verse is usually memorised with greater rapidity than prose, and this is largely due to associations of rhyme and rhythm. For this reason verse may occasionally prove to be a short cut to the remembering of certain facts. Probably most of us owe our recollection of the number of days in each month to the old rhyme—"Thirty days hath September." The following example, given by the (late) Rev. James Copner, embodies the various styles of English Ecclesiastical Architecture together with the centuries in which they flourished:

> "From six to eleven Anglo-Saxon style ran;
> Through eleven and twelve Anglo-Norman took [its span.
> Semi-Norman or Transition came next on the scene:
> In twelve it commenced and ended thirteen.
> Early English, Decorated, and Florid or P. =(Perpendicular)
> In thirteen, fourteen and fifteen we see;
> And lastly, Debased—of styles the most mean—
> We date from the end of Century sixteen."

It cannot be too strongly insisted upon that the use of such expedients as those illustrated in the last paragraph, should be considered merely as *aids* and not in any way as a substitute for a true psychological development of the memory, such as that embodied in the Pelman System of Mind and Memory Training. In our next Lesson we shall show how unconnected facts can be dealt with by the Laws of Association.

Do not be disappointed if you do not quite see where each lesson is leading you. The early lessons are naturally only the groundwork, and many things which may not be quite clear to you will be explained fully in later lessons. Unless you *thoroughly master* each lesson you will never succeed satisfactorily with those that follow.

"DON'TS"

1. Don't allow your resolutions to crumble; just continue in the spirit with which you commenced.

2. Don't complain that you are a "born mind-wanderer." You may be, but conquer the habit by discipline. Hundreds have succeeded before you.

3. Don't skim this Lesson. Go over it until you know it.

4. Don't fail to test your knowledge by self-questioning.

5. Don't be in a hurry to get through a Lesson. Remember the proverb: "More haste, less speed."

6. Don't be content to "scramble through" the lists of words. What is worth doing is worth doing well.

XII. IMAGERY TRAINING.

Exercises.

20. It has been said that "a man who does not think in images will never be a clear thinker." "Images?", you say, "*what* images?" The mental pictures of the things which, or the persons whom, you see. For instance, you go to inspect some new filing systems, and you note their agreements and differences. On returning to your office, can you give a good descriptive account of them by means of the vivid images in your mind? Or do you, on being questioned as to this or that, fail to give a realisable statement of what you saw so that another person can "see" what kind of things the new filing devices are? If you fail, it is partly because your perceptions were not keen; this, in turn, affects your power of imagery, and *that* affects your memory.

We propose to give some simple exercises in order to develop image-power in this way. Such exercises are really memory exercises.

Exercise XII.

In passing the first boot-shop in your next walk, look at the window and note a certain good pair of boots. Look at this pair attentively. Notice the shape of the toes, the finish of the uppers, the kind of leather, the colour, and so on. When you have done this, either close your eyes, or turn your eyes away from the window, and try to see the pair of boots in your mind. Your capacity for doing this well will depend on your previous training and on your sight memory. Now walk on, and when you reach a convenient position, a tramcar, or train, look at all the pairs of boots of the people near you, and see if you can compare them

with the pair you can see in your mind. Some you will find smaller, some larger, some better, some worse, some very similar in colour, and some different altogether. You will be able to do all this if you still have the image of the original pair in your mind.

NOTE.—You may select any other object for the purpose of this Exercise.

Exercise XIII.

Imagine you are standing on a station platform. What sounds would you hear, presuming no train is in motion, although one may be ready to start? When it is signalled to go ahead, what additional sounds assail your ears? And when it is out of sight, another train draws near ultimately coming to a standstill in the station. What sounds does its arrival bring?

There is a practical aspect of such an exercise as this, which should be kept in mind.

A novelist, desiring to give what the French call *vraisemblance* to his narrative, draws upon his stock of visual, auditory, and motor images gained in this way by carefully trained powers of observation; and a man of business who desires to form an accurate judgment about the possible sales of a new article depends to a large extent on the accumulated image memories of his past experience. The better your images, the more easily you learn a new language.

SPECIAL EXERCISES FOR MIND TRAINING AND HEALTH

By EUSTACE MILES, M.A.

The exercises prepared by Mr. Miles will suit the requirements of the majority of students, but where exercises of a special character, and advice as to diet and matters of a confidential nature are concerned, the Secretary of the Pelman Institute will give an introduction to Mr. Miles, who has consented to treat all Pelman students at special fees.

Fourth Lesson.

While you are dressing in the morning, and again while you are undressing at night, once more recall the importance of the right exercises done in the right way. This is capital training for the memory. We have already noted the effect of the right exercises, rightly done, on one's regularity of habit, on one's self-respect, on one's health and fitness in general, and, in particular, on one's increase in the amount of oxygen taken in and increase in the amount of carbonic acid, etc., given out. There is also a freeing of the skin, and an improvement of the circulation.

Then there is the training of the memory and the imagination, partly by going through this list of advantages, and partly by going through certain exercises in imagination directly after you have performed them. This develops a particular kind of memory, and makes it far easier to concentrate the attention on the muscles that are being used.

Now we may consider just one more advantage, a very important one to many—namely, the appearance. It is surprising to find how many people are shy because of their appearance. Obviously, the right

exercises increase the breathing-capacity and chest-expansion; they decrease the size of the waist, and improve the whole figure, and they improve, in particular, the shape of the feet and the legs; in fact the whole appearance is benefited—not merely the appearance of the muscles, but the appearance of the surface skin. A good complexion, as we shall see directly, is likely to follow from the right use of the right exercises. And this is especially the case if attention is also paid to diet. I here repeat the offer that I made in the Third Lesson.

I shall be glad to send a little free advice about some of the best foods to take and about some of the foods to avoid, or to take in moderation; and the advice will include a few notes as to the importance of sipping water, especially first thing in the morning, and last thing at night, and before, rather than during or after meals.

Now, for this Lesson, I shall not suggest any new exercises. It will be better for you simply to go through the old ones, first taking those which were to be done in bed, all together; then those which were to be done out of bed, all together. This will mean a little longer devoted to the exercises than in previous weeks, but it will be well worth while to master these exercises thoroughly by repetition. Do not let your attention flag; when it is inclined to flag, then recall the many advantages of the right exercises done in the right way.

For convenience, I will just mention the exercises; there is no need to describe them again.

I.—In Bed.

Stretch each foot and leg in turn. Practise the abdominal breathing. Stretch out each hand and arm in turn. Practise the muscular breathing. Practise the abdominal breathing, but this time draw the abdomen in when you have finished inhaling, and press it in so as to send the air to the top of the lungs.

Sitting up in bed, go through the series of neck-exercises.

II.—Out of Bed.

Do the skin-drill. Practise a little gentle skipping or hopping; and stretch each arm up in turn, bringing it down to the outside of the

corresponding foot, and bending the trunk down from the hips at the same time. You will find that by now you can do this exercise far more easily than before.

Now a few more words about diet. We tend to be influenced by what we eat. One of the simplest rules is to avoid excess; and, as I pointed out, it is not merely excess of meat and flesh-foods that most people suffer from, nor excess of alcoholic drinks, against which there have been so many crusades of late years. There is also a still more terrible excess, of starchy and sugary elements, such as we get from large amounts of potatoes, puddings, bread, cakes, jam, and sugar itself.

And there is also terrible excess of tea, coffee, and cocoa, which are stimulants and narcotics, and do not contain (in their usual form) any appreciable amount of nutriment.

I recommend water-drinking, or, rather, water-sipping at the right times. The cleansing effect of this for the whole system is marvellous. Another great help to health is more thorough mastication of foods. The extreme plan (of masticating every mouthful of food so long as it has taste) need not be adopted; but the ordinary habit of gobbling down all the food, and swilling down all the liquid, is a bad one. Lubrication can also be helped by oil. At first people do not like oil much. I should recommend a good Nut-Oil; and not a bad plan is to put a little milk at the bottom of a glass, then some Nut-Oil (say a teaspoonful, to begin with), then some more milk; then to swallow this down after a meal. It ought not to taste at all.

With regard to positive nourishment, the hints which I am willing to send will deal with that, and will point out some very convenient and economical meals, some of them needing no preparation at all.

I much prefer to advise people individually as to the best food-bases or staples, and how they can find out for themselves the right amounts of food, and how they can secure better-balanced meals, and so forth.

LESSON V.

Will-power is the subject of Lesson V., and the thorough-going manner in which it is treated will not only dispel misunderstandings as to how a strong Will is developed, but will actually begin the work of training the Will.

In sending in the Work Sheet, write your name and address legibly, and add your registered number.

These Text Books are for Students only, and must not be shown or lent to anyone.